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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/792,092	03/04/2004	**Toni Paila**	60091.00300	4087

32294 7590 01/05/2011

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EXAMINER	
CEHIC, KENAN	
ART UNIT	**PAPER NUMBER**
2473	

NOTIFICATION DATE	DELIVERY MODE
01/05/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/792,092	PAILA ET AL.	
	Examiner	Art Unit	
	KENAN CEHIC	2473	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06/23/2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in Graham **v.** John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claim 1, 4, 10, 11, 13, 15, 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 2002/0073086) in view of Korus et al (US 7,075,929) and Ginzboorg et al (US 2002/0169712)

For claim 1, Thompson discloses A method (see fig 10a-c and section 0093), comprising: transmitting multicast data packets (see fig 10c, Q and section 0099 "multicasts queries on the new multicast group") in at least one first multicast tree (see fig 10c and section 0099 "constructing the query distribution tree…the tree is established…multicasts queries on the new multicast group") from one transmitter (see fig 10c BC) through a plurality of multicast controllers (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104) to a plurality of recipients (see fig 2; 106; and section 0047

"queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user device's device node...evoke a response...from the device...at that device node..."), wherein the multicast connection from a multicast controller to a receipient (see fig 10c, fig 2; 106; and section 0047 "queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user device's device node...evoke a response...from the device...at that device node...");

generating at least one second multicast tree (see fig 10a; 2) for control messages (see fig 10a, 2 and section 0099 "multicasts this join instruction to group") in an internet protocol network (see fig 1 and section 0036 "standard TCP/IP network" and section 0043 "IP address" and section 0058 "CDN 100…IP multicast") from a network multicast controller (see fig 10c; CS1) to at least one multicast controller at edge level (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104); and

transmitting the control messages (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction") from the network multicast controller (see fig 10c; CS1) along the at least one second multicast tree reserved for control messages (see fig 10a, 2 and section 0099 "CS 1 multicasts this join instruction to group"; the multicast distribution tree, from the multicasting origin of CS1 to destination nodes, as shown in fig. 10a is for the join instruction, while a different multicast distribution tree is used to send the queries from BC to ED nodes through a different set of intermediate nodes) to the at least one multicast controller at cell level (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104), a command configured to connect to

the at least one first multicast tree (see fig 10a; Join instruction; section 0099 "instructing them to join…multicasts this join instruction to group") of the internet protocol network configured for multicasts (see fig 1 and section 0036 "standard TCP/IP network" and section 0043 "IP address" and section 0058 "CDN 100…IP multicast").

For claim 4, Thompson discloses transmitting (see fig 10c, Q and section 0099 "multicasts queries on the new multicast group"; section 0099 "multicasts queries on the new multicast group") , after connecting to the at least one first multicast tree configured for multicasts (see fig 10b; on; section 0099 "instructing them to join…multicasts this join instruction to group"), by the at least one multicast controller at edge level (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104), packets received through the at least one first multicast tree (see fig 10c; Q) to at least one receiver in a cell (see fig 2; 106; and section 0047 "queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user device's device node...evoke a response...from the device...at that device node...").

For claim 10, Thompson further discloses after receiving a control message from the network multicast controller messages (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction"), by the at least one multicast controller at edge level (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104) ,receipients of its cell (see fig 2; 106; and section 0047 "queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user

device's device node...evoke a response...from the device...at that device node...") that a multicast is available (see fig 10c, fig 2; 106; and section 0047 "queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user device's device node...evoke a response...from the device...at that device node..."; end nodes are told that multicast is available i.e. by join command).

For claim 11, Thompson discloses notifying (see fig 10b; on; section 0099 "instructing them to join...multicasts this join instruction to group"), after receiving a control message (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction") from the network multicast controller (see fig 10a; CS1) through the at least one multicast tree (see fig 10a; Join instruction) configured for control messages (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction"), by the at least one multicast controller at edge level (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104), recipients of its cell that a multicast must be received (see section 0099 "program A' recipients instructing them to join" and fig 2; 106; and section 0047 "queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user device's device node...evoke a response...from the device...at that device node...").

For claim 13, Thompson discloses An arrangement (see fig 10a-c) for implementing multicasting (see fig 10c, Q and section 0099 "multicasts queries on the new multicast

group") in internet protocol networks (see fig 1 and section 0036 "standard TCP/IP network" and section 0043 "IP address" and section 0058 "CDN 100…IP multicast"), the arrangement comprising:

a plurality of routers (see section 0058 "CDN….router that can deliver content from content sources") configured to transmit of different components (see section 0058 "CDN….router that can deliver content from content sources" and fig 10a and fig 10c) in the internet protocol networks (see fig 1 and section 0036 "standard TCP/IP network" and section 0043 "IP address" and section 0058 "CDN 100…IP multicast") to each other (see section 0058 "CDN….router that can deliver content from content sources" and fig 10a and fig 10c);

at least one first multicast tree (see fig 10c and section 0099 "constructing the query distribution tree…the tree is established…multicasts queries on the new multicast group") configured to transmit multicast packets (see fig 10c, Q and section 0099 "multicasts queries on the new multicast group") through a plurality of multicast controllers (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104) to a plurality of recipients (see fig 2; 106; and section 0047 "queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user device's device node...evoke a response...from the device...at that device node..."), wherein the multicast connection from a multicast controller to a receipient (see fig 10c, fig 2; 106; and section 0047 "queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user device's device node...evoke a response...from the device...at that device node...");

a plurality of edge-level multicast controllers (see fig 10a; ED) configured to transmit packets to the plurality of receivers (see fig 2; 106; and section 0047 "queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user device's device node...evoke a response...from the device...at that device node..."); and

a network multicast controller (see fig 10a; CS1) that is arranged to control (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction") the edge-level multicast controllers (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104),

wherein an internet protocol network (see fig 1 and section 0036 "standard TCP/IP network" and section 0043 "IP address" and section 0058 "CDN 100…IP multicast") comprises at least one second multicast tree (see fig 10a; 2) reserved for control messages (see fig 10a, 2 and section 0099 "CS 1 multicasts this join instruction to group"; the multicast distribution tree, from the multicasting origin of CS1 to destination nodes, as shown in fig. 10a is for the join instruction, while a different multicast distribution tree is used to send the queries from BC to ED nodes through a different set of intermediate nodes)and configured to route control messages (see fig 10a, 2 and section 0099 "multicasts this join instruction to group") from the network multicast controller (see fig 10a; CS1) to the plurality of edge-level multicast controllers (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104) , the network multicast controller (see fig 10a; CS1) configured to transmit the control messages (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction") along the at least

one second multicast tree (see fig 10a; Join Instruction) to the plurality of edge-level multicast controllers (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104), a command configured to

connect to the at least one first multicast tree (see fig 10a; Join instruction; section 0099 "instructing them to join…multicasts this join instruction to group") of the internet protocol network (see fig 1 and section 0036 "standard TCP/IP network" and section 0043 "IP address" and section 0058 "CDN 100…IP multicast") configured for multicast transmissions (see fig 10c, Q and section 0099 "multicasts queries on the new multicast group").

For claim 15, Thompson discloses wherein the edge-level multicast controllers (see fig 10b; ED) are configured to connect to the multicast tree (see fig 10b; Join and fig 10a; Q) of the internet protocol network configured for multicasts (see fig 1 and section 0036 "standard TCP/IP network" and section 0043 "IP address" and section 0058 "CDN 100…IP multicast") after receiving a control message (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction") from the network multicast controller (see fig 10a; CS1) through the multicast tree configured for control messages (see fig 10a; Join instruction and section 0099).

For claim 16, Thompson discloses An arrangement (see fig 10a-c), comprising:

first transmission means (see section 0058 "CDN….router that can deliver content from content sources" and fig 10a and fig 10c) for transmitting different components (see

section 0058 "CDN….router that can deliver content from content sources" and fig 10a and fig 10c) in internet protocol networks (see fig 1 and section 0036 "standard TCP/IP network" and section 0043 "IP address" and section 0058 "CDN 100…IP multicast") to each other (see section 0058 "CDN….router that can deliver content from content sources" and fig 10a and fig 10c);

second transmission means (see fig 10c and section 0099 "constructing the query distribution tree…the tree is established…multicasts queries on the new multicast group") for transmitting multicast packets (see fig 10c, Q and section 0099 "multicasts queries on the new multicast group") through a plurality of multicast controllers (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104) to a plurality of recipients (see fig 2; 106; and section 0047 "queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user device's device node...evoke a response...from the device...at that device node..."), wherein the multicast connection from a multicast controller to a receipient (see fig 10c, fig 2; 106; and section 0047 "queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user device's device node...evoke a response...from the device...at that device node...");

third transmission means (see fig 2; 104, A, B, C, D, 106) for transmitting packets to the plurality of receivers (see fig 2; 106; and section 0047 "queries....received by the end-user computing devices....answered by...end-user device...query directed at the end-user device's device node...evoke a response...from the device...at that device node...");

and control means for controlling (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction") the edge-level multicast controllers (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104),

wherein an internet protocol network (see fig 1 and section 0036 "standard TCP/IP network" and section 0043 "IP address" and section 0058 "CDN 100…IP multicast") comprises fourth transmission means reserved for control messages (see section 0058 "CDN….router that can deliver content from content sources" and fig 2; E.D., 106; see fig 10a, 2 and section 0099 "CS 1 multicasts this join instruction to group"; the multicast distribution tree, from the multicasting origin of CS1 to destination nodes, as shown in fig. 10a is for the join instruction, while a different multicast distribution tree is used to send the queries from BC to ED nodes through a different set of intermediate nodes) for routing control messages transmitted (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction") from the control means (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction") to the third transmission means (see fig 2; 104, A, B, C, D, 106), the control means (see fig 10a) for transmitting the control messages (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction") along the fourth transmission means (see section 0058 "CDN….router that can deliver content from content sources" and fig 2; E.D., 106) to the second transmission means (see fig 10a; 10c fig 2; 104, A, B, C, D, 106 ;and section 0099 "constructing the query distribution tree…the tree is established…multicasts queries on the new multicast group") , and a command configured to connect (see fig 10a; Join instruction; section 0099 "instructing them to join…multicasts this join instruction to

group") to the second transmission means (see fig 10c and section 0099 "constructing the query distribution tree…the tree is established…multicasts queries on the new multicast group") of the internet protocol network configured for multicast transmissions (see fig 1 and section 0036 "standard TCP/IP network" and section 0043 "IP address" and section 0058 "CDN 100…IP multicast").

Thompson is does not explicitly discuss:

For 1, and similarly for 13, 16, edge devices at cell level; the control messages comprising information on the multicast transmission of the internet protocol network ; wherein the multicast connection to a recipient is unidirectional.

For claim 4, edge devices at cell level

Korus from the same or similar field of endeavor discloses the following:

For 1, and similarly for 13, 16, Korus discloses edge devices at cell level (fig 1; 101-112 and col 8 line 15-30 "new site(s)"); the control messages comprising information on the multicast transmission (see col 8 lines 15-30 "instruct the new site(s) to join the multicast group and inform the site of the TTL scope" and col 4 line 15-50 "multicast scope value…TTL") of the internet protocol network (see col 2 line 50-65 "IP multicast communication system or network 100")

For claim 4, Korus discloses edge devices at cell level (fig 1; 101-112 and col 8 line 15-30 "new site(s)").

Ginzboorg from the same or similar field of endeavor discloses the following:

For claim 1, and similarly 13, and 16 , wherein the multicast connection to a recipient is unidirectional (see section 0139; multicast connection is unidirectional)

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Thompson by using the features, as taught by Korus, in order to provide a wireless communication system which makes use of IP multicast where the terminals may roam between multiple zones, where bandwidth is not wasted and is scalable (see Korus col 1-2); in order to offer personalized customer service for individual customers, which prevails in a current customer-centric atmosphere (see Ginzboorg section 0006)

Furthermore, a ordinary of skill could have used the features (having edge devices which are associated with a zone/cell and that the control messages regarding a multicast have the information about that multicast) in the system of Thompson and the feature would have merely performed the same function as it did separately. A person of the ordinary skill would have recognized that the combination of Thompson and the pointed out features of Korus would have resulted in predictable results.

Furthermore, it is shown that Thompson discloses the multicast tress as disclosed in the claims however he is not explicit about multicast being unidirectional. However, as shown by Ginzboorg unidirectional multicast connection were known to a person of ordinary skill in the art at the time the invention was made. A person of ordinary skill in the art could have combined / used the feature that the multicast transmission is unidirectional and included such a feature into the multicast transmission of Thompson. The results of the combination would have been predictable to a person of ordinary skill in the art.

2. Claim 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 2002/0073086) , Korus et al (US 7,075,929) and Ginzboorg et al (US 2002/0169712) as applied to claim 1 above, further in view of Khan et al (US 2002/0143951).

For claim 2 and similarly 14, Thompson, Korus, and Ginzboorg discloses the claimed invention as described above.

For claim 2, and similarly 14, Thompson discloses to the at least one multicast tree configured for the network control messages tree (see section 0099 "distribution tree…content source CS 1 multicasts this join instruction…distribution tree…" and fig 10a); discloses at least one multicast controller at edge level level (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104)

For claim 2 and similarly 14, Koru further discloses at edge devices at cell level (fig 1; 101-112 and col 8 line 15-30 "new site(s)") receiving network control messages (see col 8 lines 15-30 "instruct the new site(s) to jon the multicast group and inform the site of the TTL scope" and col 4 line 15-50 "multicast scope value…TTL").

Thompson, Korus, and Ginzboorg silent about:

For claim 2 and similarly 14, when connecting to the internet protocol network, connecting to the at least one multicast.

Khan from the same or similar field of endeavor discloses a communication network with the following features:

For claim 2 and similarly 14, when connecting to the internet protocol network (see section 0027 "new agent…newly started on a server computer…perform tow important tasks at startup…join the appropriate multicast group"), connecting to the at least one

multicast (see section 0027 "new agent…newly started on a server computer…perform tow important tasks at startup…join the appropriate multicast group").

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Thompson, Korus, and Ginzboorg by using the features, as taught by Khan, in order to provide a method that when a device/program connects starts up it immediately connects to a multicast group which transmits important messages , thus no manual intervention is needed and a possible forgetting to join a multicast is prevented; and in order to provide a method/system which solves the problem of limited multicast availability by providing a novel method and system for bridging multicast and unicast (see Khan sections 0009-0012).

3. Claim 3, 5, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 2002/0073086) , Korus et al (US 7,075,929), and Ginzboorg et al (US 2002/0169712) as applied to claim 1 above, further in view of Okanoue (US 6,243,758).

For claim 3, 5, and 9 , Thompson, Korus, and Ginzboorg discloses the claimed invention as described above.

For claim 3, Thompson discloses connecting (see fig 10b; Join; section 0099 "instructing them to join…multicasts this join instruction to group"), after receiving a control message tree (see fig 10a; Join instruction; section 0099 "instructing them to join…multicasts this join instruction to group") from the network multicast controller (see fig 10c; CS1) through the at least one multicast tree (see fig 10a; 2) configured for the control messages (see fig 10a, 2 and section 0099 "multicasts this join instruction to group"), the

at least one multicast controller at edge level (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104) to the at least one multicast tree configured for multicasts (see fig 10c and section 0099 "constructing the query distribution tree…the tree is established…multicasts queries on the new multicast group") .

For claim 9, Thompson further disclose registering (see Fig 10b; Join), after receiving a control message (see fig 10a; Join instruction; section 0099 "instructing them to join…multicasts this join instruction to group") from the network multicast controller (see fig 10a-c; CS1), by the at least one multicast controller at edge level (see fig 10b; ED), a recipient of a multicast (see fig 10c; Q)

For claim 9, Korus further discloses the edge devices at cell level (fig 1; 101-112 and col 8 line 15-30 "new site(s)")

Thompson, Korus, and Ginzboorg do not explicitly discuss:

For claim 3 and 9 multicast defined in the control message.

For claim 5, the control messages further comprise information on an identifier of one or more multicast groups

Okanoue from the same or similar field of endeavor discloses a communication network with the following features:

For claim 3 and 9 Okanoue discloses multicast defined in the control message (see col 6 line 39-50 "sends a control message…to inform them of the multicast address of its group").

For claim 5, Okanoue discloses the control messages further comprise information on an identifier of one or more multicast groups (see col 6 line 39-50 "sends a control message…to inform them of the multicast address of its group")

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Thompson, Korus, and Ginzboorg by using the features, as taught by Okanoue, in order to provide a computer network capable of selectively routing multicast packet to home mobile hosts visiting a subnetwork external to a scope of foreign mobile hosts visiting a subnetwork within the scope (see Oknoue col 1)

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 2002/0073086) , Korus et al (US 7,075,929), and Ginzboorg et al (US 2002/0169712) as applied to claim 1 above, further in view of Kumar (US 6,269,080).

For claim 6-8 Thompson, Korus, and Ginzboorg discloses the claimed invention as described above.

For claim 6, Thompson further discloses the control messages (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction").

Thompson, Korus, and Ginzboorg are silent about:

For claim 6, information on a time of validity of the control messages.

Kumar from the same or similar field of endeavor discloses a communication network with the following features:

For claim 6, Kumar discloses information on a time of validity of the control messages (see col 8 lines 17-29; TTL)

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system Thompson, Korus, and Ginzboorg by using the features, as taught by Kumar, in order to provide a method that eliminates the acknowledgment implosion problem associated with multicast transport protocols by making only one receiver responsible for generating acknowledgments and also requesting retransmissions and provides flow control, avoids duplicate transmissions and makes effective use of unicast and multicast communication (see Kumar col 3 line 65 through col 4 line 15).

5. Claim 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 2002/0073086) , Korus et al (US 7,075,929), and Ginzboorg et al (US 2002/0169712) as applied to claim 1 above, further in view of Gunter et al (US 7,055,027).

For claim 7 and 8 , Thompson, Korus, and Ginzboorg discloses the claimed invention as described above.

Thompson, Korus, and Ginzboorg not explicitly discuss the following:

For claim 7, the control messages further information on a sender authentication.

For claim 8, the control messages further comprise a receiver filter.

Gunter from the same or similar field of endeavor discloses the following features:

For claim 7, Gunter discloses the control messages further information on a sender authentication (see col 1 lines 39-46 and col 2 lines 1-15; information in header(s) used to authenticate source).

For claim 8, Gunter discloses the control messages further comprise a receiver filter (see col 2 lines 16-40; destination address filters out receivers which are not supposed to receive message).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify / combine the features of Thompson, Korus, and Ginzboorg by using the above recited features, as taught by Gunter, in order to provide virtual private network provides a secure, authenticated mechanism for communicating between two endpoints, which provides secure and unchanged traffic data (see Gunter col 1)

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 2002/0073086) , Korus et al (US 7,075,929), and Ginzboorg et al (US 2002/0169712) as applied to claim 1 above, further in view of Dean et al. (US 2003/0061333 A1)

For claim 12, Thompson, Korus, and Ginzboorg teaches all the claimed invention as described above.

For claim 12, Thompson discloses after receiving a control message (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction") from the network multicast controller (see fig 10c; CS1) through the at least one multicast tree (see fig 10a,

2 and section 0099 "multicasts this join instruction to group") configured for control messages (see fig 10a ; join instruction, 2 and section 0099 "mulitcasts this join instruction"); multicast controller at edge level (see fig 10c, rectangle at bottom of multicast tree, same as ED in fig 10c; fig. 2; 104).

For claim 12, Korus discloses edge devices at cell level (fig 1; 101-112 and col 8 line 15-30 "new site(s)").

Thompson, Korus, and Ginzboorg do not teach refraining from processing the control message regarding multicast transmission.

Dean et al. from the same or similar field of endeavor teaches that a device refraining from processing the control message regarding multicast transmission (see section 0051 lines 6-9 of Dean et al.). Thus it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the method of disregarding messages about multicast into the communication system as taught by Thompson, Korus, and Ginzboorg . One could have implemented a similar transaction ID as taught by Dean et al. into one of the routers as taught by Thompson and Korus. This could have been done with either implementing a processor in the router or connecting a computer to the router which can accomplish the processing of the transaction ID. The motivation is that once the user has received advertisement from the same vendor/transaction ID, the advertisement is not repeated to the user again.

Response to Arguments

7. Applicant's arguments filed 06/23/2010 have been fully considered but they are not persuasive.

For claim 1 and similarly 13 and 16, the applicant argues that newly amended claim limitations "the multicast connection from a multicast controller to a recipient is unidirectional". As can be seen in the above rejection, Ginzborg teaches that a multicast connection is to be considered unidirectional; that is when multicast traffic (i.e. multicast connection) is sent only in the direction of the recipient. It is the examiner stance that the amended limitations do not require that no traffic from the recipient is to be sent (i.e. there is only unidirectional communication). Therefore, the fact that recipients of multicasts in figures 10a-d send messages upstream towards nodes that are multicasting does not exclude the use of the reference. It is believed that Ginzborg's teachings show that a multicast connection is to be considered unidirectional. Further, the fact that Korus has teachings of reverse path communication does not teach away / exclude the references because of the above reasoning (i.e. multicast traffic (connection) is considered unidirectional).

For claim 1 and similarly 13 and 16, the applicant argues that Thompson lacks a multicast tree for control messages (second multicast tree) which includes a command to connect to a another multicast tree (first multicast tree).

The office action cites that the multicast group of figure 10a is considered as the second multicast group / tree, and that figure 10c is the first multicast group / tree. In fig 10a, 2 and section 0099 ("multicasts this join instruction to group"), it is believed that Thompson discloses a multicast tree (second multicast tree) that is used for transmission of a join command. Further, the office action clearly took the stance that, the recipients join a multicast group after receiving this join message and receive multicast transmission

via a second multicast tree as shown in figure 10c and section 0099 "Upon receiving the instruction…members send join messages…constructing the…tree…Once the tree is established…broadcast center multicasts…on the new multicast group". To summarize figure 10a is a multicast tree / group (second multicast tree) used to multicast a join command based on which recipients joint another multicast tree / group shown in figure 10c (first multicast tree).

For claim 12, the applicant argues that the provisional application 60/289,023, which Dean relies on, does not disclose the subject matter of paragraph 0051 which is relied on in the application. The teaching used in the rejection is the ignoring of multicast requests. After examination of the provisional application and incorporated materials a direct and exact recitation / language of the discussed teachings can be explicitly found. For the above reasons the arguments have not been found persuasive.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ste whose telephone number is (571)270-3120. The examiner can normally be reached on Monday through Friday 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KWANG BIN YAO can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenan Cehic/
Examiner, Art Unit 2473

/KWANG B. YAO/

Supervisory Patent Examiner, Art Unit 2473